Claims

[1] A recorded master for manufacturing an information storage medium comprising:
a mater substrate;
a heat absorption layer which is coated on the mater substrate and absorbs heat at a part on which a beam is irradiated; and
a separation layer which is coated on the heat absorption layer,
wherein according to the temperature distribution of the part on which the beam is irradiated, volume change occurs in at least one of the heat absorption layer and the separation layer.

[2] The recorded master of claim 1, wherein the separation layer is formed of a photoresist.

[3] The recorded master of claim 1, wherein the heat absorption layer is formed of an alloy layer.

[4] The recorded master of claim 3, wherein the alloy layer is formed of a rare earth element metal and a transition metal.

[5] The recorded master of claim 4, wherein the alloy layer is formed of TbFeCo.

[6] The recorded master of claim 1, wherein a dielectric layer is included on at least one of the top and bottom of the heat absorption layer.

[7] The recorded master of claim 6, wherein the dielectric layer is formed of a mixture of ZnS and SiO_2.

[8] The recorded master of claim 1, wherein the heat absorption layer is formed as an alloy dielectric layer formed of a dielectric and an alloy.

[9] The recorded master of claim 1, wherein when the melting point of the heat absorption layer is T1 and the part on which a laser beam is irradiated has a temperature of 0.5T1 or over, a volume change occurs in the heat absorption layer and the separation layer part.

[10] The recorded master of claim 1, wherein when the melting point of the heat absorption layer is T1, the melting point of the separation layer is T2, and the temperature distribution of the part on which a laser beam is irradiated is equal to or higher than T2 and lower than 0.5T1, a volume change occurs in the separation layer and a pit is formed.

[11] The recorded master of claim 1, wherein when the melting point of the separation layer is T2, the glass transition temperature of the separation layer is

T3, and the temperature distribution of the part on which a laser beam is irradiated is equal to or higher than T3 and lower than T2, volume change occurs in the separation layer and a bump is formed.

[12] A method of fabricating a recorded master for manufacturing an information storage medium, comprising:
coating a heat absorption layer which absorbs heat at a part on a mater substrate on which a beam is irradiated;
coating a separation layer on the heat absorption layer; and
by irradiating a laser beam on the heat absorption layer to cause a volume change in at least one of the heat absorption layer and the separation layer with respect to the temperature distribution of a part on which the beam is irradiated.

[13] The method of claim 12, wherein the separation layer is formed of a photoresist.

[14] The method of claim 12, wherein the heat absorption layer is formed of an alloy layer.

[15] The method of claim 14, wherein the alloy layer is formed of a rare earth element metal and a transition metal.

[16] The method of claim 15, wherein the alloy layer is formed of TbFeCo.

[17] The method of claim 12, wherein a dielectric layer is included on at least one of the top and bottom of the heat absorption layer.

[18] The method of claim 17, wherein the dielectric layer is formed of a mixture of ZnS and SiO_2.

[19] The method of claim 12, wherein the heat absorption layer is formed as an alloy dielectric layer formed of a dielectric and an alloy.

[20] The method of claim 12, wherein when the melting point of the heat absorption layer is T1 and the part on which a laser beam is irradiated has a temperature of 0.5T1 or over, a volume change occurs in the heat absorption layer and the separation layer part.

[21] The method of claim 12, wherein when the melting point of the heat absorption layer is T1, the melting point of the separation layer is T2, and the temperature distribution of the part on which a laser beam is irradiated is equal to or higher than T2 and lower than 0.5T1, a volume change occurs in the separation layer and a pit is formed.

[22] The method of claim 12, wherein when the melting point of the separation layer is T2, the glass transition temperature of the separation layer is T3, and the temperature distribution of the part on which a laser beam is irradiated is equal to

or higher than T3 and lower than T2, a volume change occurs in the separation layer and a bump is formed.

[23] The method of claim 12, wherein the temperature of a part on which a beam is irradiated depends on the power of the beam and the linear velocity of the master.